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(54) Title: SEEDS

(57) **Abstract:** This invention relates to a method for modifying cell proliferation in a plant which comprises the step of transforming a plant, or plant propagating material, with a nucleic acid molecule comprising at least one regulatory sequence capable of directing expression within the integuments and/or seed coat and at least one nucleic acid sequence whose expression or transcription product is capable of directly or indirectly modulating cell proliferation, whereby on expression of that nucleic acid sequence cell proliferation is modified. The invention also relates to a plant which includes a nucleic acid molecule comprising at least one regulatory sequence capable of directing expression within integuments and/or seed coat and at least one nucleic acid sequence whose expression or transcription product is capable of directly or indirectly modulated cell proliferation, whereby on expression of that nucleic acid sequence cell proliferation is modified. The invention also relates to a plant material including a nucleic acid molecule comprising at least one regulatory sequence capable of directing expression within integuments and/or seed coat and at least one nucleic acid sequence whose expression or transcription product is capable of directly or indirectly modulated cell proliferation, whereby expression of that nucleic acid sequence cell proliferation is modified. According to another aspect of the invention, there is provided a method for modifying cell proliferation in a plant which comprises the step of modulating the response of the plant to an auxin in which cell proliferation is modified to produce larger or smaller seeds than wild-type.

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